

Alignment Planning Study of Alcoa Highway (US 129/ SR 115) and Road Corridor Development Plan

Virtual Public Meeting – via Microsoft Teams

February 24, 2022

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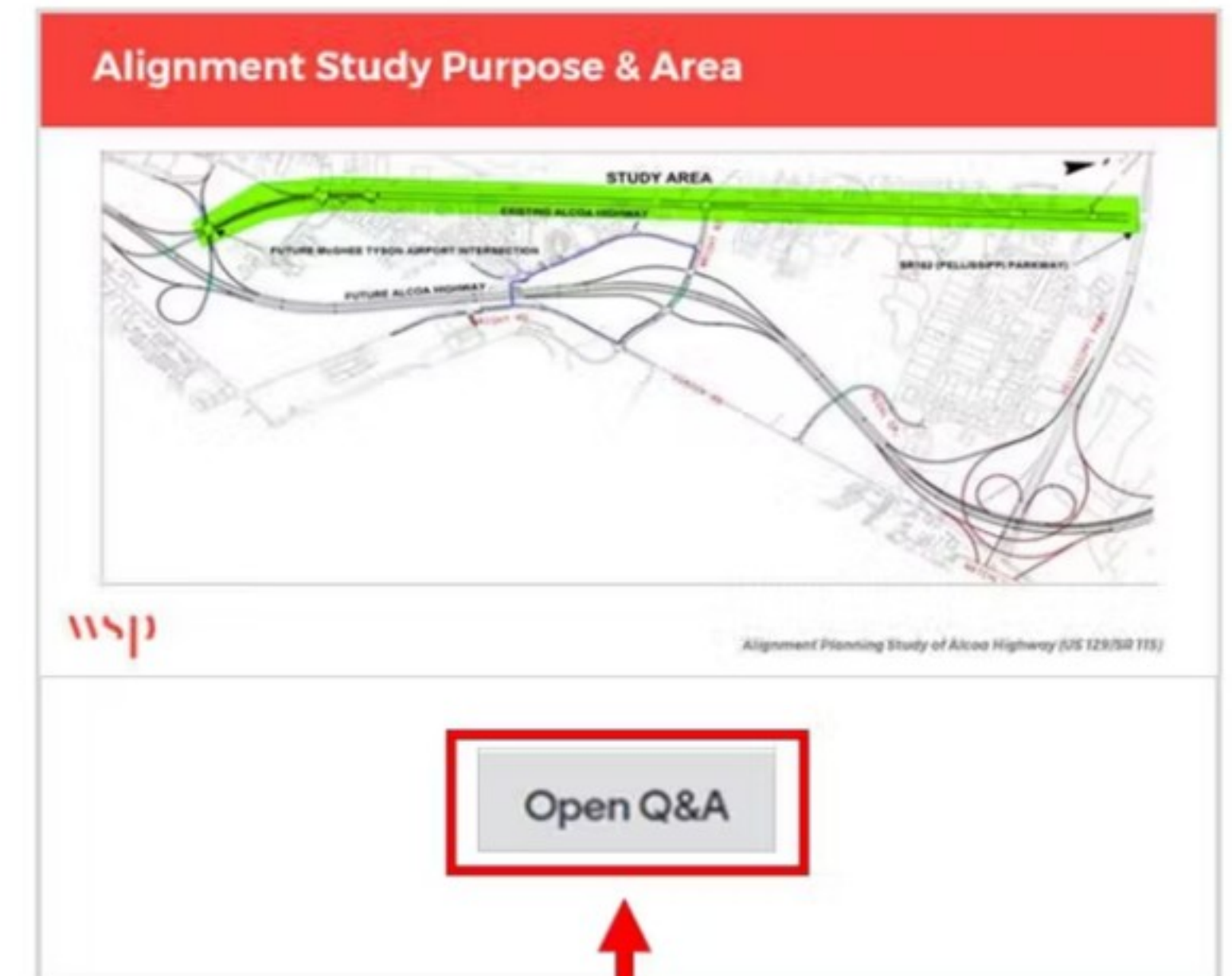
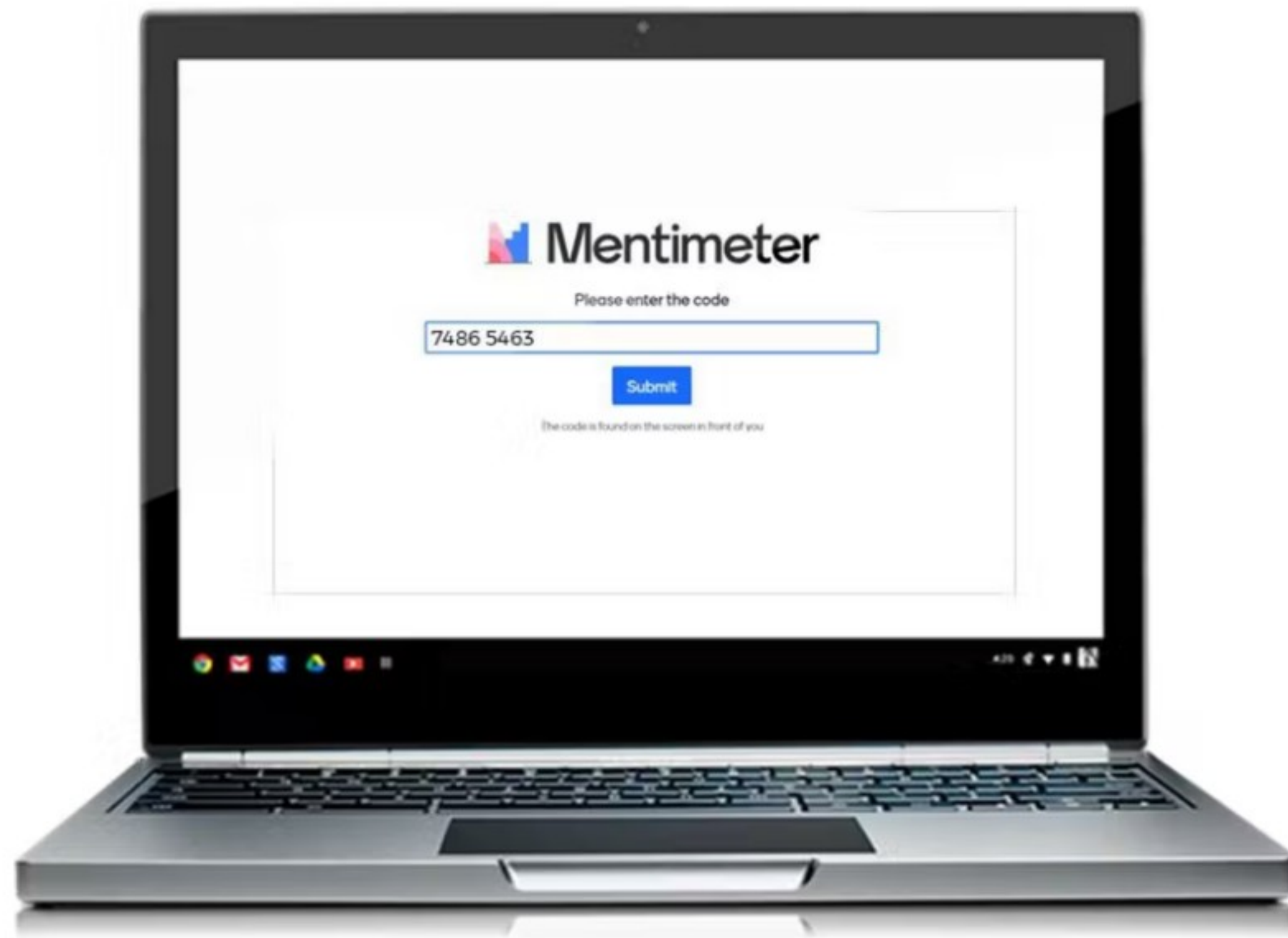


Alignment Planning Study of Alcoa Highway (US 129/SR 115)

Using Mentimeter



Go to www.menti.com and type in the code **7486 5463**



Ask a question at any point during the presentation

Agenda

- **Purpose of the Corridor Study**
- **Study Tasks/Scope**
- **Corridor Characteristics**
- **Needs & Deficiencies**
- **Proposed Alignment and Roadway Sections**
- **Next Steps**
- **Questions & Answers**

Purpose of the Corridor Study

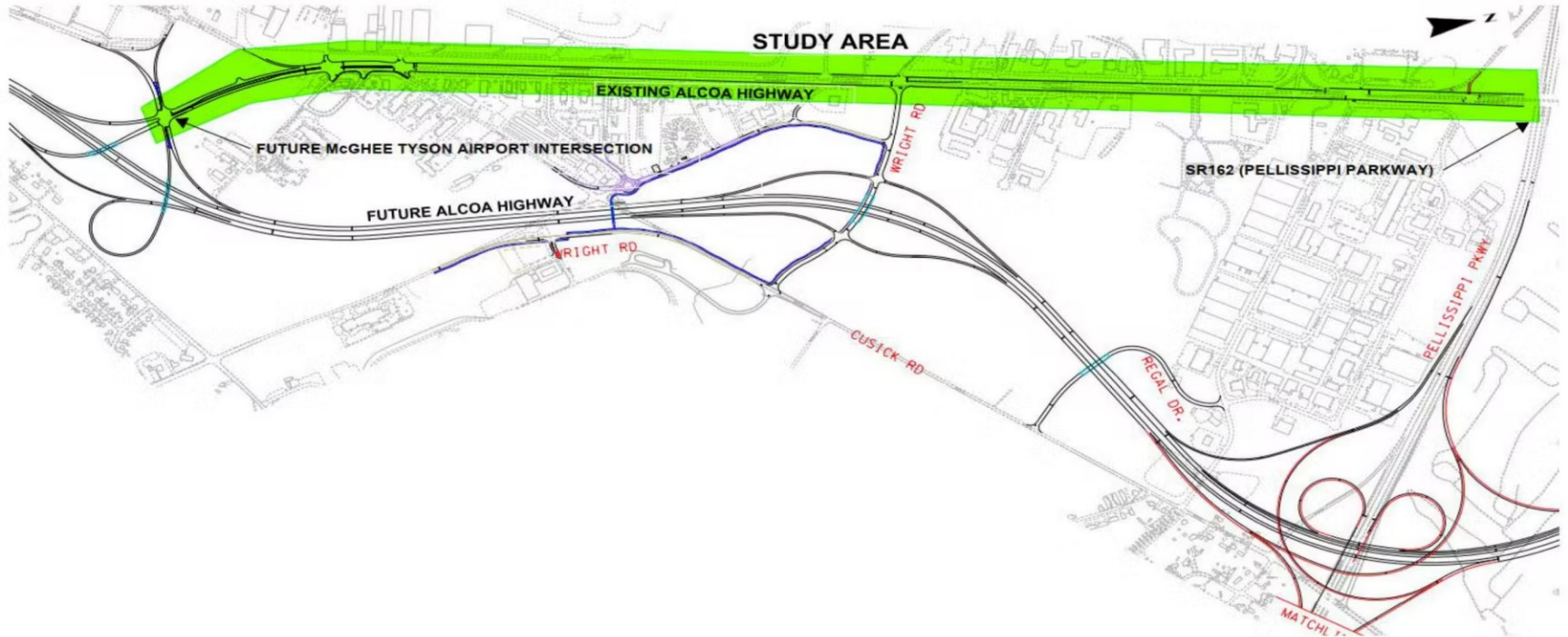
The Corridor Study:

- *Conduct a planning study of the existing alignment of Alcoa Highway (US 129/SR 115) between the future Alcoa Highway intersection at McGhee Tyson Airport and Pellissippi Parkway*

Purpose:

- *Preparation of a road corridor development plan focused on the development of an urban corridor*
- *Develop recommendations that create a more urban and multimodal environment for all users while minimizing future long-term maintenance*

Alignment Study Purpose & Area



Alignment Study Purpose & Area



Study Tasks/Scope

Task 1. Existing and Future Conditions Analysis

- Analyze land use patterns, development conditions, traffic and predicted traffic
- Review with Stakeholders

Task 2. Needs & Deficiencies

- Summarize needs and deficiencies
- Provide case studies of up to 3 successful conversions

Task 3. Stakeholder and Public Involvement

- Kickoff Meeting
- Stakeholder Meeting
- Public Meeting
- Final Presentation

Task 4. Design Guidelines/Potential Solutions Analysis

- Develop up to two design alternatives
- Refine Preferred Alternative

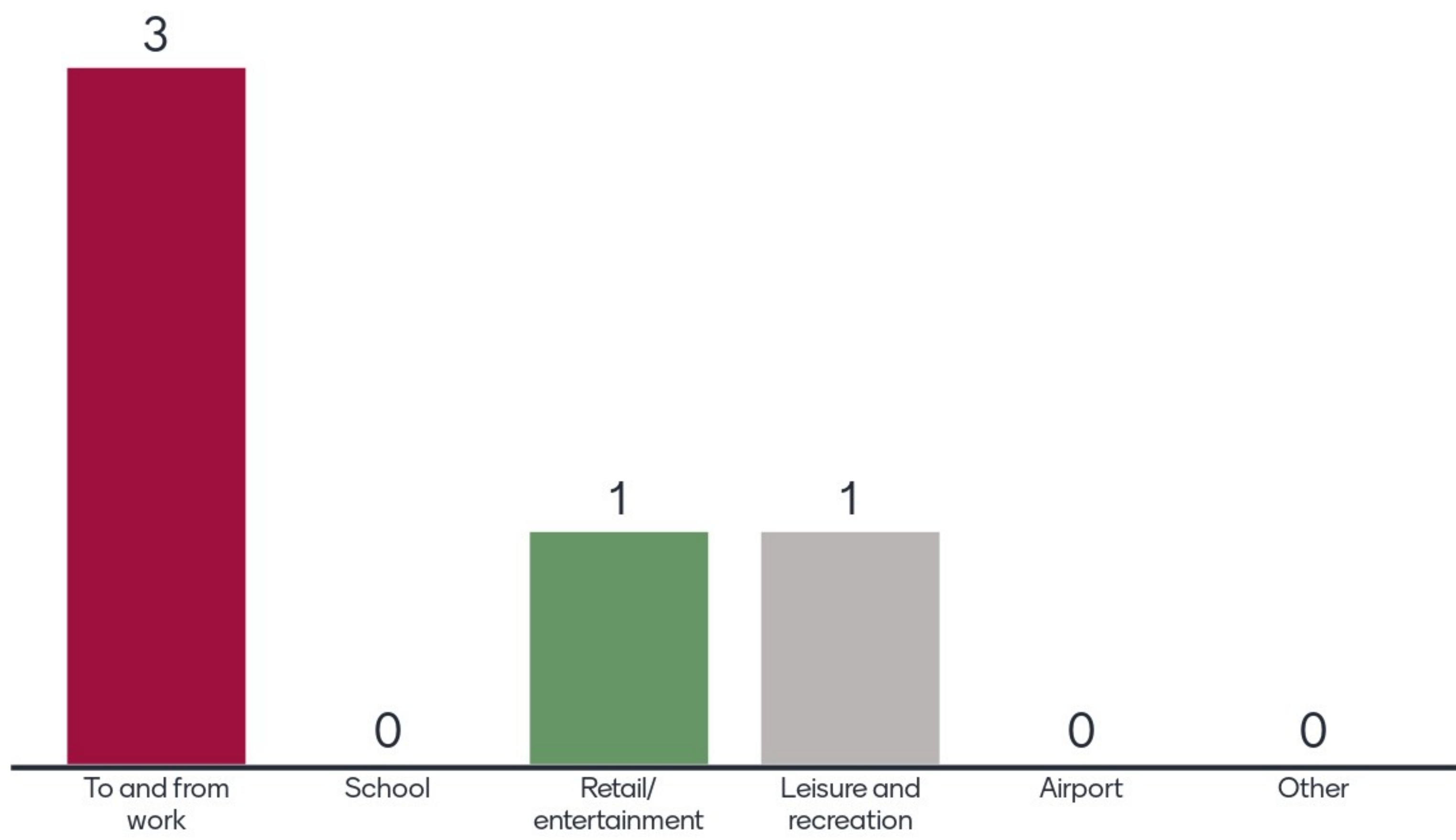
Task 5. Recommendations and Final Report

- Summary of findings
- Proposed recommendations with planning level cost estimate

Existing and Future Conditions Analysis



What is your primary purpose in traveling the existing alignment of Alcoa Highway (from Hunt Road to Pellissippi Parkway)?



Alcoa Highway Existing Alignment

- Approximately 2.5 miles
- 4-lane divided highway with grassy median
- Frontage roads
- 40 mph posted speed limit
- No signalized intersections
- Current Average Annual Daily Traffic (AADT) ~ 60,000



Alignment Planning Study of Alcoa Highway (US 129/SR 115)

Corridor Characteristics

Future Growth

- Population is growing and expected to grow
- Need for additional housing

Land Use & Zoning

- East side almost exclusively commercial, adjacent to Alcoa Hwy.
- West side predominately the airport, commercial and residential
- Institutional uses, industrial uses and agricultural uses

Development Patterns

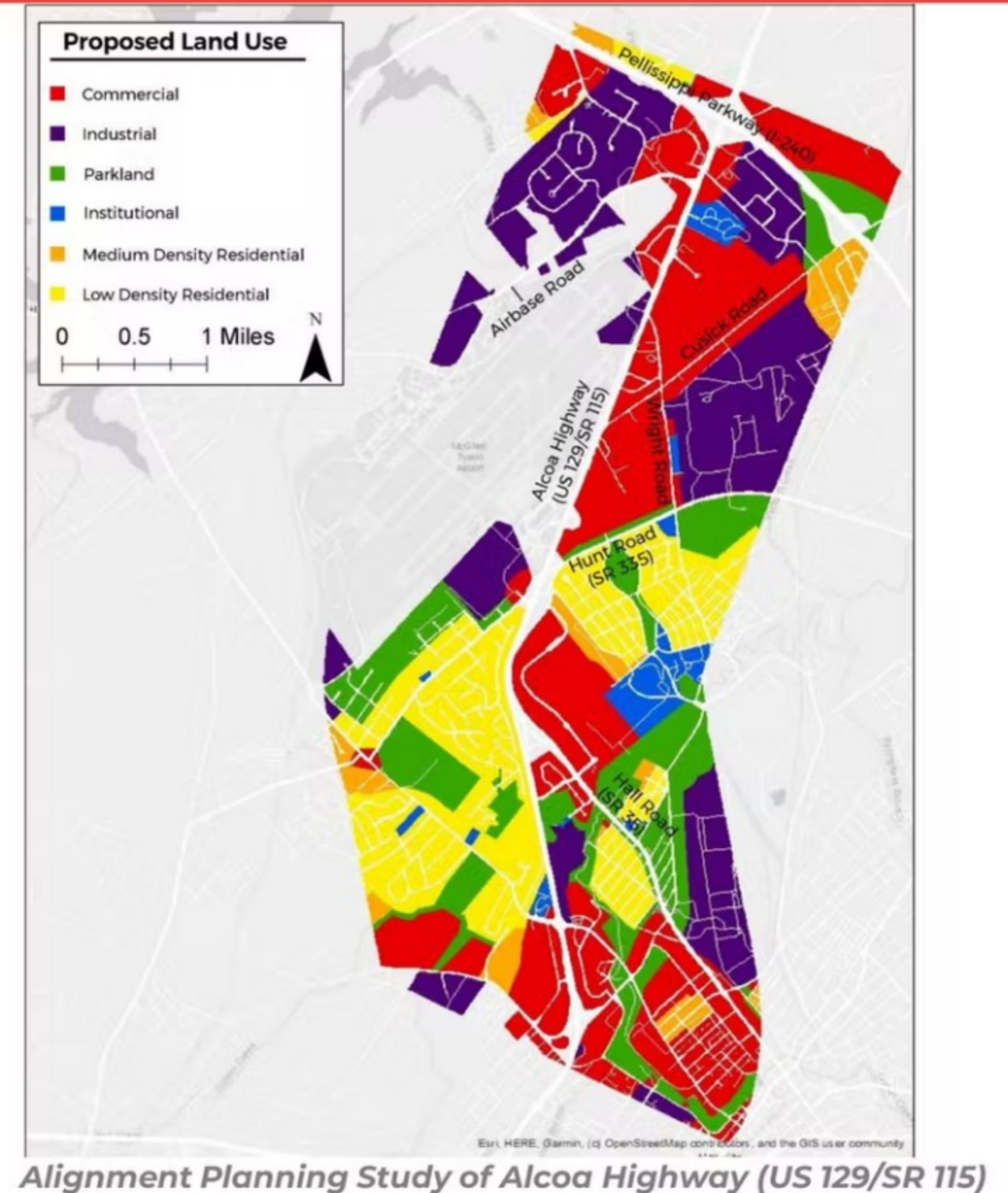
- Both local traffic and regional traffic
- Relocated Alcoa will provide alternate route to the airport
- New potential developments include airport growth, commercial, light industrial

Corridor Characteristics – Future Land Use & Special District

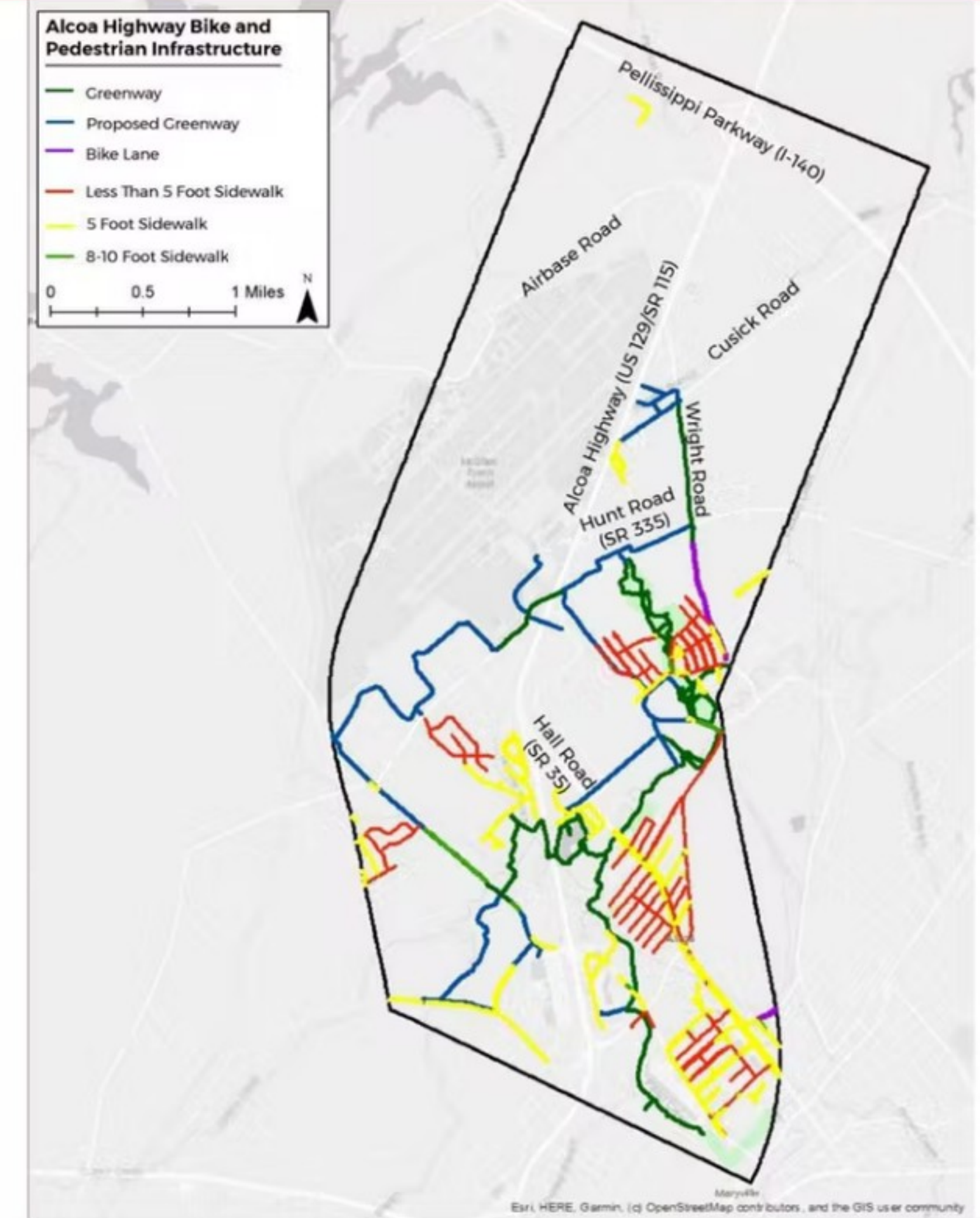
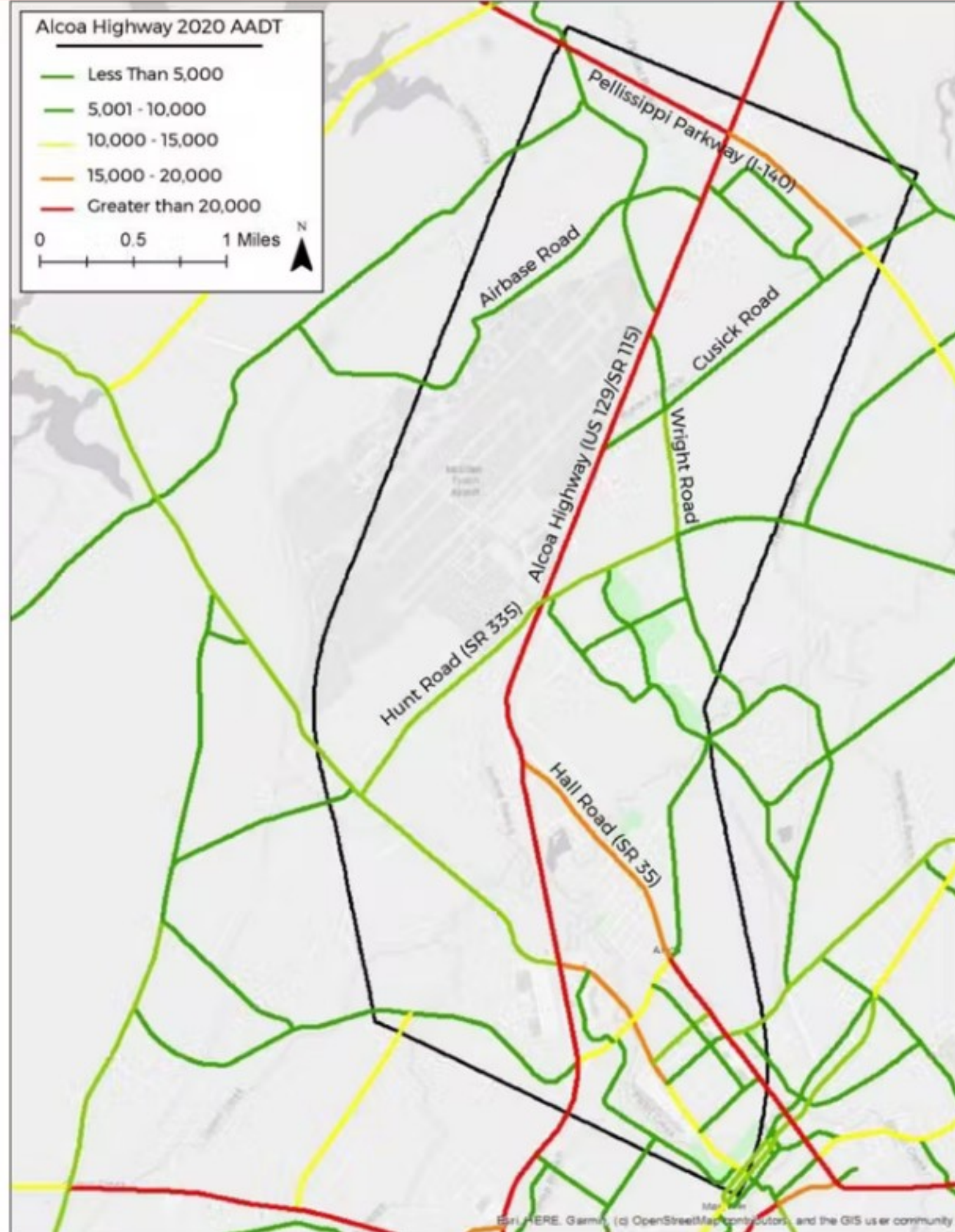
Proposed Land Uses:

- *Commercial*
- *Industrial*
- *Parkland*
- *Institutional*
- *Residential*

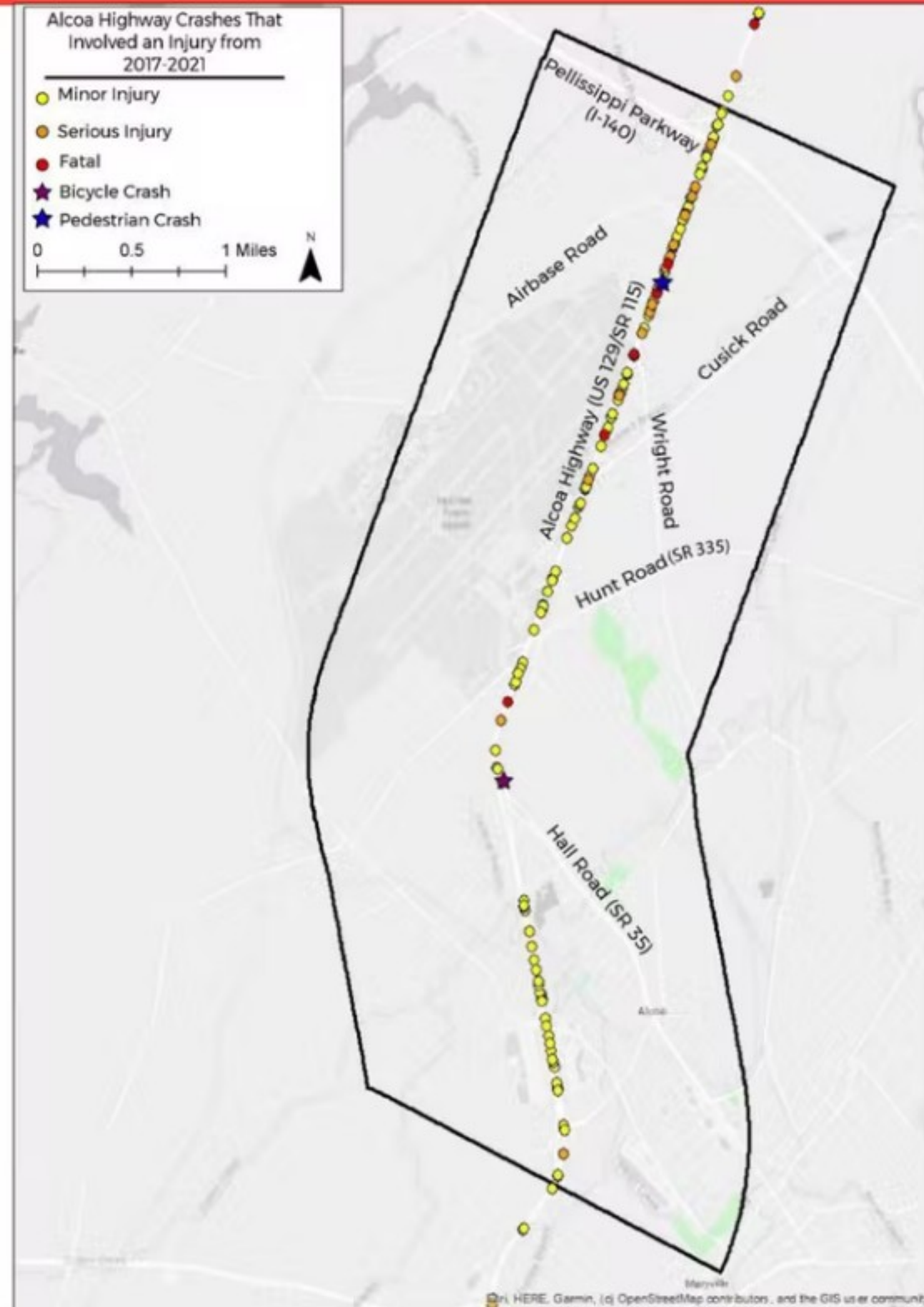
Springbrook Farm Land Use & Zoning



Corridor Characteristics – AADT & Bike/Ped Infrastructure



Corridor Characteristics – Crash Data

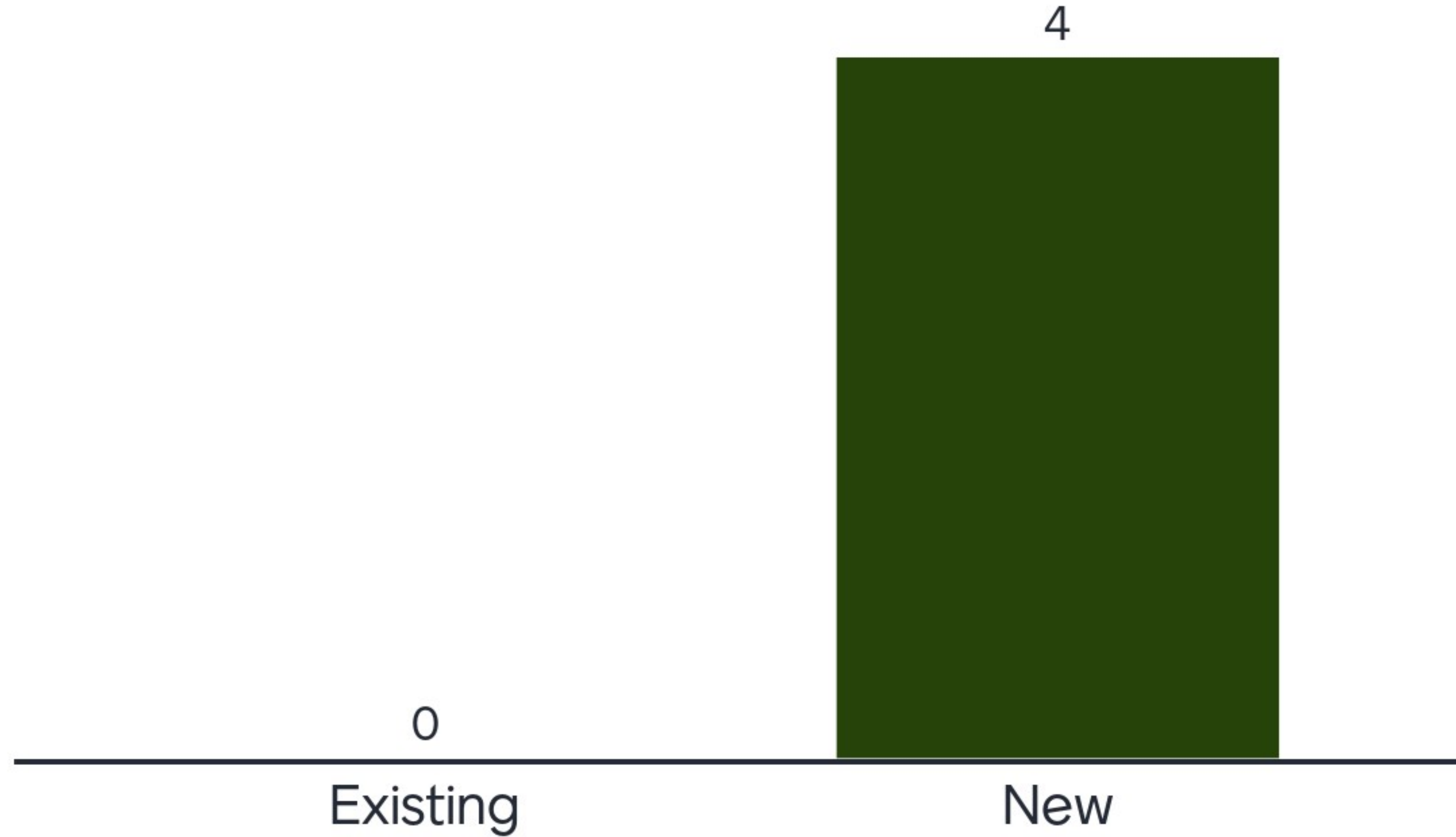


Year	Crashes	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes
2017	249	1	2	43
2018	268	1	4	38
2019	288	3	4	52
2020	162	0	3	24
2021	215	2	6	31

Future Relocated Alcoa Highway Alignment



If your destination is beyond the corridor, would you use the existing alignment or the new alignment?



Corridor Characteristics –Traffic Volume Assumptions

- Adapted Alcoa Highway traffic volume diagrams prepared by the Tennessee Department of Transportation (TDOT) for the Relocated Alcoa Highway Project
- An annual growth rate of 2.2% was used based on the TDOT diagrams.
- Estimated 2029 opening year for relocated Alcoa Highway and a future design year of 2049
- Assumes 20% - 25% of current projected traffic remains on existing alignment while the remaining 75% to 80% of traffic uses Relocated Alcoa Highway.

Corridor Characteristics – Traffic Analysis

- Traffic volume and Level of Service (LOS) was analyzed for a 3-lane and a 4-lane reduced width section for existing Alcoa Highway once Relocated Alcoa Highway is opened.
- The study corridor is expected to have up to four (4) new signals installed along the alignment. Therefore, affecting traffic flow.
- Annual Average Daily Traffic (AADT) reaching **greater than** 20,000 vehicles per day on 3-lane roads lead to greater traffic congestion to the point of motorist diverting to alternative routes.

Corridor Characteristics – Future Traffic Volumes – 20% Split

Year	Ex. Alcoa Hwy S. of Airport Entrance	Ex. Alcoa Hwy: btw Airport Entrance and Wright Rd.	Ex. Alcoa Hwy btw N. Wright Rd. and Northpark Blvd.	Ex. Alcoa Hwy btw Northpark Blvd and Pellissippi Pky.
2029	10,420	11,233	14,708	16,094
2030	10,650	11,481	15,032	16,449
2031	10,885	11,734	15,363	16,812
2032	11,125	11,992	15,702	17,182
2033	11,370	12,257	16,048	17,561
2034	11,620	12,527	16,401	17,947
2035	11,876	12,803	16,763	18,343
2036	12,138	13,085	17,132	18,747
2037	12,405	13,373	17,509	19,160
2038	12,679	13,668	17,895	19,582
2039	12,958	13,969	18,290	20,014
2040	13,243	14,277	18,693	20,455
2041	13,535	14,591	19,104	20,905
2042	13,834	14,913	19,525	21,366
2043	14,138	15,241	19,956	21,837
2044	14,450	15,577	20,395	22,318
2045	14,768	15,920	20,845	22,810
2046	15,094	16,271	21,304	23,312
2047	15,426	16,630	21,773	23,826
2048	15,766	16,996	22,253	24,351
2049	16,113	17,370	22,743	24,887

- N. Wright Rd. to Northpark Blvd.
>20,000 AADT in year 2044 (15 years after opening new section)
- Northpark Blvd. to Pellissippi Pky.
>20,000 AADT starting at year 2039 (10 years after opening new section)

Corridor Characteristics – Future Traffic Volumes – 25% Split




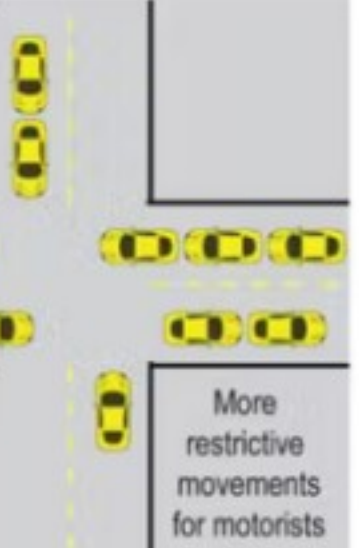
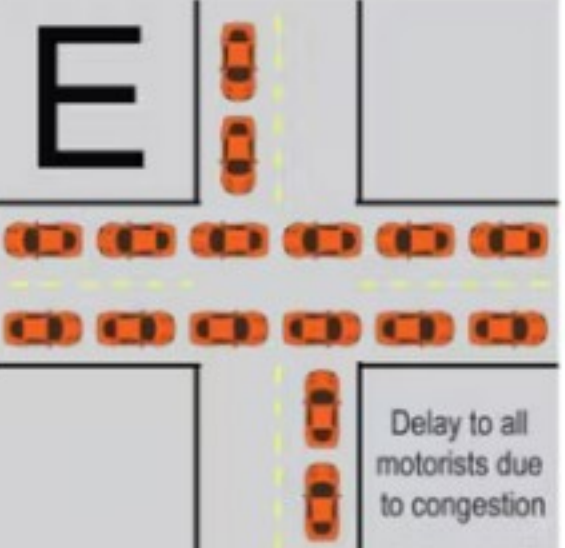
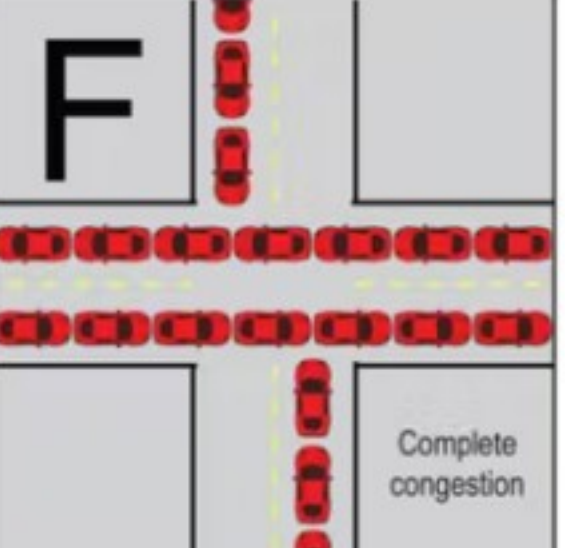
Year	Ex. Alcoa Hwy S. of Airport Entrance	Ex. Alcoa Hwy: btw Airport Entrance and N. Wright Rd.	Ex. Alcoa Hwy btw N. Wright Rd. and Northpark Blvd.	Ex. Alcoa Hwy btw Northpark Blvd and Pellissippi Pky.
2029	13,026	14,042	18,385	20,118
2030	13,313	14,351	18,790	20,561
2031	13,606	14,667	19,204	21,014
2032	13,906	14,990	19,627	21,477
2033	14,212	15,321	20,060	21,951
2034	14,525	15,658	20,502	22,434
2035	14,845	16,003	20,953	22,929
2036	15,172	16,356	21,415	23,434
2037	15,507	16,716	21,887	23,950
2038	15,848	17,085	22,369	24,478
2039	16,197	17,461	22,862	25,017
2040	16,554	17,846	23,366	25,568
2041	16,919	18,239	23,880	26,132
2042	17,292	18,641	24,407	26,708
2043	17,673	19,052	24,944	27,296
2044	18,062	19,471	25,494	27,897
2045	18,460	19,900	26,056	28,512
2046	18,867	20,339	26,630	29,140
2047	19,283	20,787	27,217	29,782
2048	19,708	21,245	27,816	30,439
2049	20,142	21,713	28,429	31,109

- Alcoa Hwy South of Future Airport Ent. > 20,000 AADT in 2049
- Future Airport Ent. To N. Wright Rd. > 20,000 AADT in 2046 (17 years after opening)
- N. Wright Rd. to Northpark Blvd. > 20,000 AADT in year 2033 (5 years after opening)
- Northpark Blvd. to Pellissippi Pky. > 20,000 AADT starting at year 2029 (opening year)

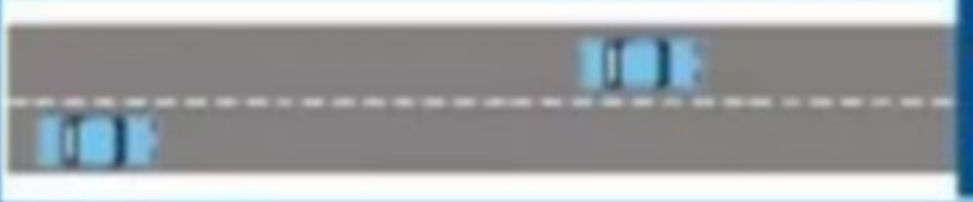





Level of Service (LOS)

Approach LOS

Level of Service (Signalized Intersections)	Average Vehicle Delay at Intersection (seconds)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

A		B		C	
D		E		F	

Speed LOS

	Roadway	
LOS A		<ul style="list-style-type: none"> Free flowing Uninterrupted vehicle
LOS B		<ul style="list-style-type: none"> Stable flow Other vehicles are more noticeable
LOS C		<ul style="list-style-type: none"> Stable flow Vehicle operations affected by other vehicles
LOS D		<ul style="list-style-type: none"> High density free flow Operation of vehicle is affected by other vehicles
LOS E		<ul style="list-style-type: none"> High density traffic flow, nearing capacity Operating conditions are extremely poor
LOS F		<ul style="list-style-type: none"> Forced or breakdown flow Amount of traffic exceeds capacity

Approach Level of Service (LOS) – 20% Split

Year	Northbound				Southbound			
	South -Airport Entrance	South - Wright Rd	South - Northpark Blvd	South - Pellissippi Pky	North - Pellissippi Pky	North - Northpark Blvd	North - Wright Rd	North - Airport Entrance
3-lane Section								
2029 AM	A	C	A	A	A	A	C	A
2029 PM	A	C	B	A	A	A	C	A
2049 AM	A	D	B	B	A	A	D	A
2049 PM	A	C	C	B	B	D	C	A
4-lane Section								
2029 AM	A	A	B	A	A	A	B	A
2029 PM	A	A	B	A	A	A	B	A
2049 AM	A	A	B	A	A	A	B	A
2049 PM	A	A	B	B	B	A	B	A

Approach Level of Service (LOS) – 25% Split

Year	Northbound				Southbound			
	South -Airport Entrance	South – N. Wright Rd	South - Northpark Blvd	South - Pellissippi Pky	North - Pellissippi Pky	North - Northpark Blvd	North - N. Wright Rd	North - Airport Entrance
3-lane Section								
2029 AM	A	C	A	A	A	A	C	A
2029 PM	A	C	B	A	B	B	C	A
2049 AM	B	E	D	B	A	B	E	A
2049 PM	B	D	C	D	D	E	D	A
4-lane Section								
2029 AM	A	B	B	A	A	B	B	A
2029 PM	A	B	B	A	B	B	B	A
2049 AM	A	A	B	B	B	A	C	A
2049 PM	A	B	B	B	B	B	C	A

Speed – Level of Service (LOS) – 20% Split

Scenario	3-Lane Section		4-Lane Section	
	Northbound <i>mph (LOS)</i>	Southbound <i>mph (LOS)</i>	Northbound <i>mph (LOS)</i>	Southbound <i>mph (LOS)</i>
2029 AM	32 (B)	34 (B)	38 (B)	41 (A)
2029 PM	32 (B)	32 (B)	37 (B)	37 (B)
2049 AM	28 (C)	31 (B)	38 (B)	40 (A)
2049 PM	28 (C)	24 (C)	38 (B)	38 (B)



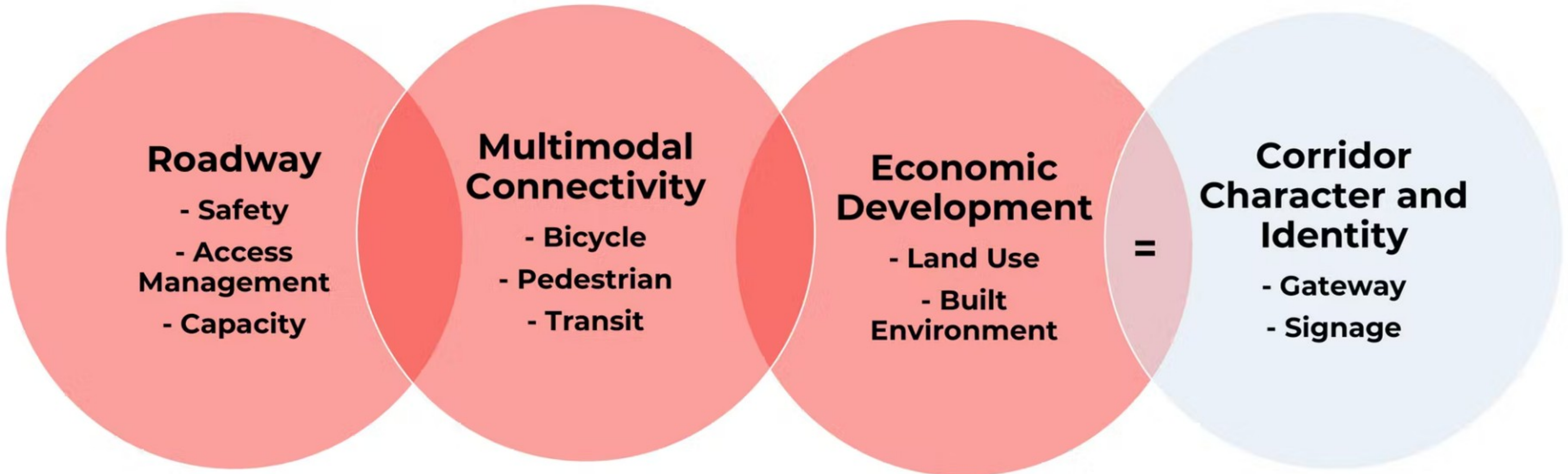
Speed – Level of Service (LOS) – 25% Split

Scenario	3-Lane Section		4-Lane Section	
	Northbound <i>mph (LOS)</i>	Southbound <i>mph (LOS)</i>	Northbound <i>mph (LOS)</i>	Southbound <i>mph (LOS)</i>
2029 AM	32 (B)	33 (B)	37 (B)	40 (A)
2029 PM	31 (B)	31 (B)	36 (B)	37 (B)
2049 AM	23 (C)	29 (C)	36 (B)	39 (A)
2049 PM	21 (D)	18 (D)	37 (B)	36 (B)

Needs & Deficiencies



Corridor Needs



Roadway

- 3-Lane vs. 4-Lane:
 - *Concern over volume and capacity of roadway*
 - *Decision made to maintain 4-lane*
- Safety
 - *Signalized Intersections will reduce severity of crashes and reduce speed*
- Access Management/Frontage Roads
 - *Intent to revert to private ownership, but maintain access*
 - *Define right-in/right-out access to existing Alcoa Highway*

Multimodal Connectivity



Overarching goal is for the street to be “user friendly”



Bicycles

Recommended separated bike facility with greenspace next to traffic



Pedestrians

Connect existing greenway trails to hotels
Provide a 10' wide multi-use trail
Tie to existing greenways

Economic Development



TOWER BRIDGE GATEWAY SACRAMENTO, CA

Land Use

- Desire more shopping variety
- Want more park facilities

Built Environment

- Grow commercial area that is aesthetically pleasing
- Connect to Springbrook Farm Development
- Additional land may be available from Arconic after new section of Alcoa Highway is built

Corridor Character & Identity



Preference was for a “softer”/urban four-lane configuration



Appearance

Be cohesive with Springbrook Farm

Consistent lighting, consider removing overhead utilities

Similar look to Hall Road (SR35)

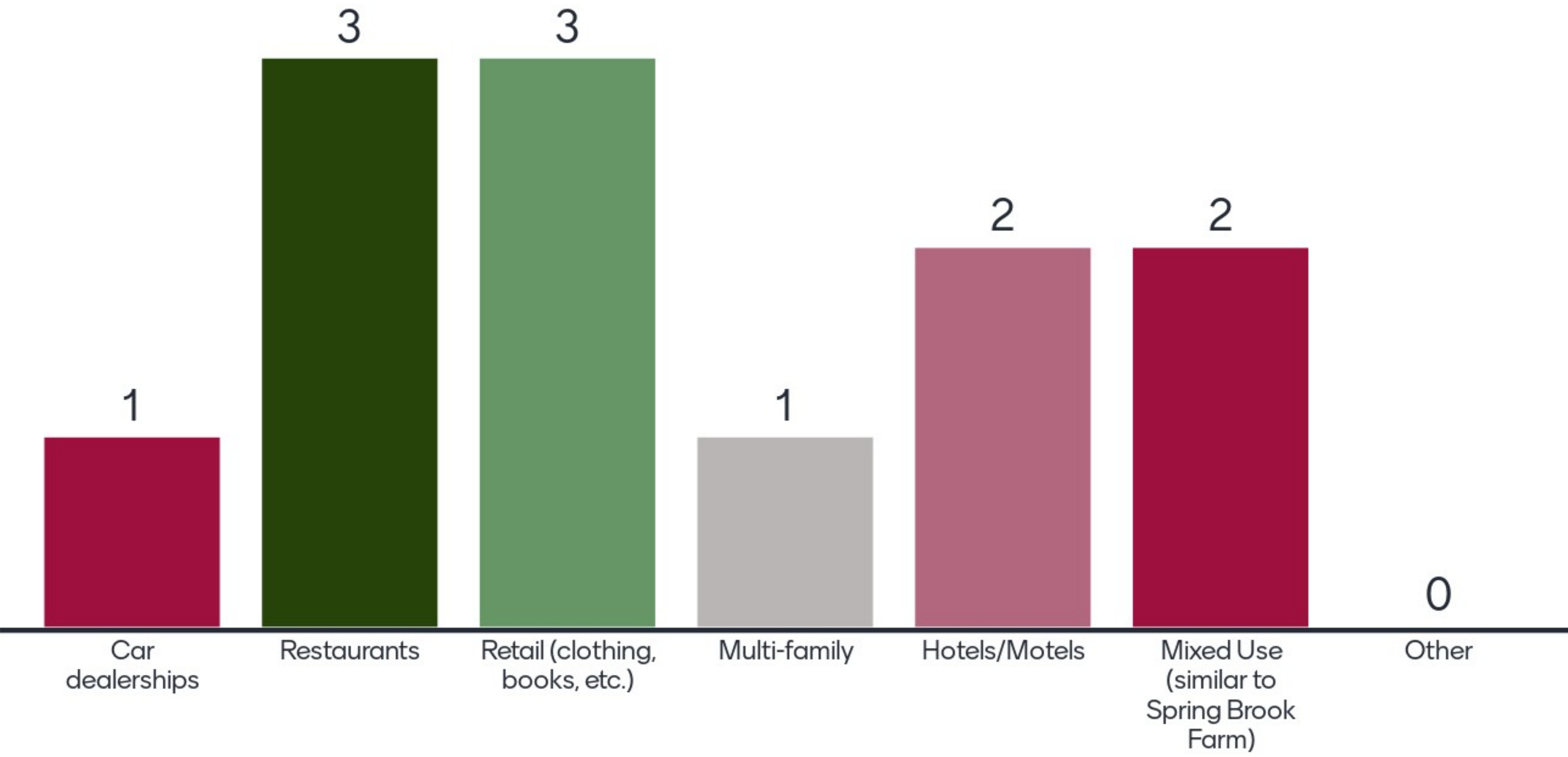


Gateways

Make this a destination highway, instead of a cut through Boulevard leading to Alcoa, Smokies, etc.

Welcoming area for those arriving via the airport

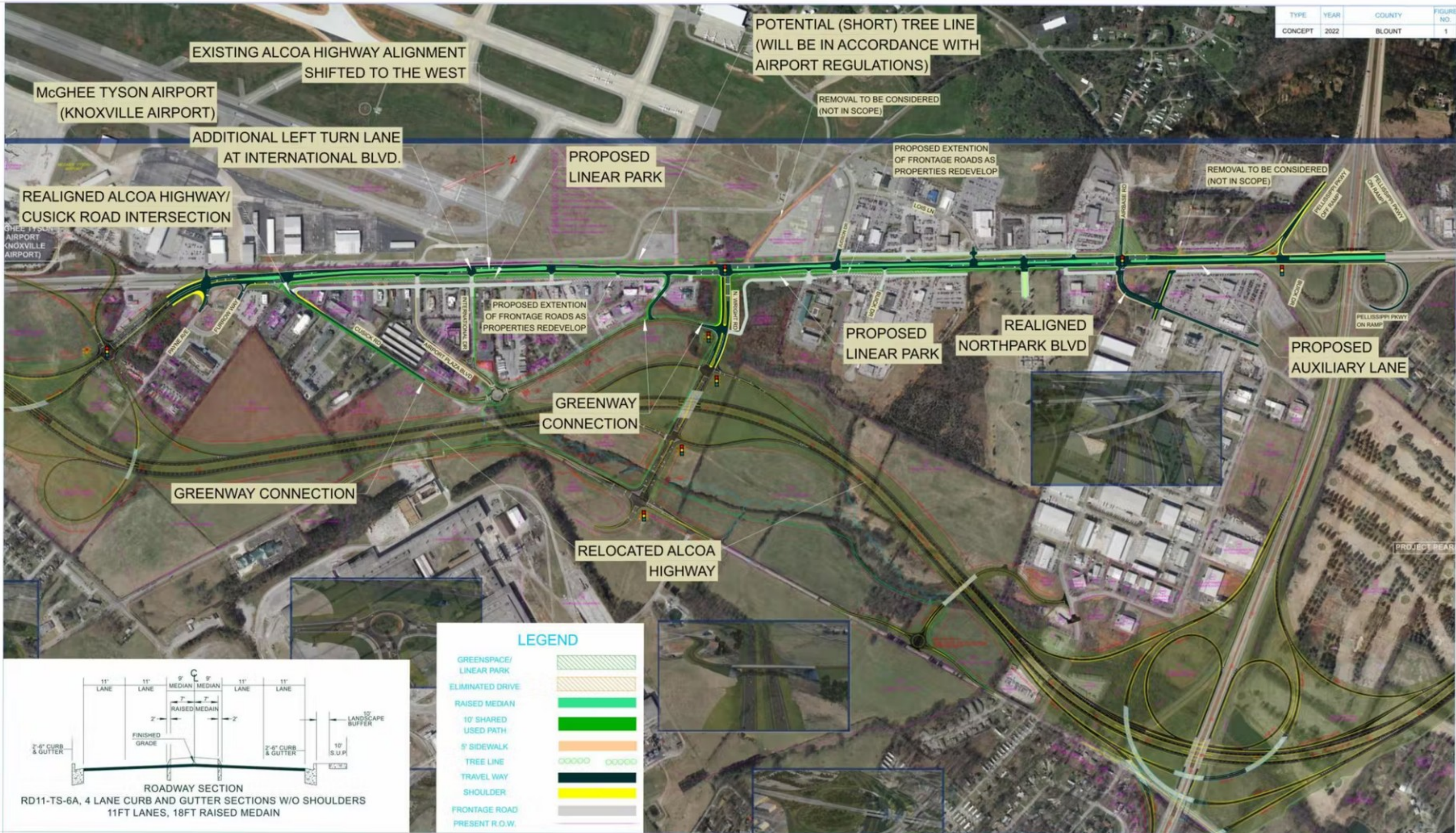
As the road transitions from a highway to an urban corridor, what types of development would you like to see?



Future Relocated Alcoa Highway Alignment - 2029



TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2022	BLOUNT	1

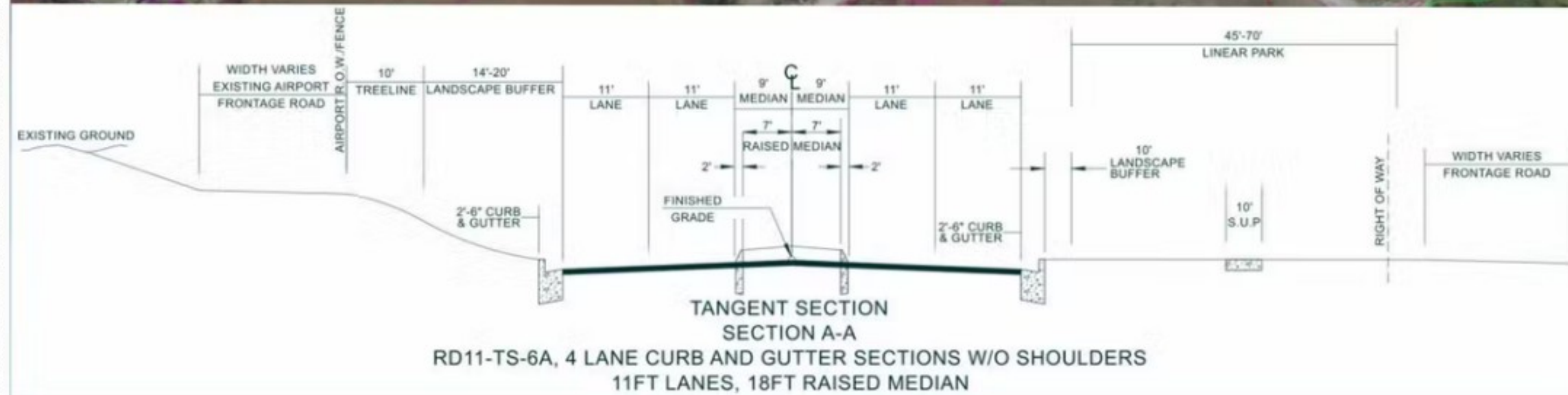
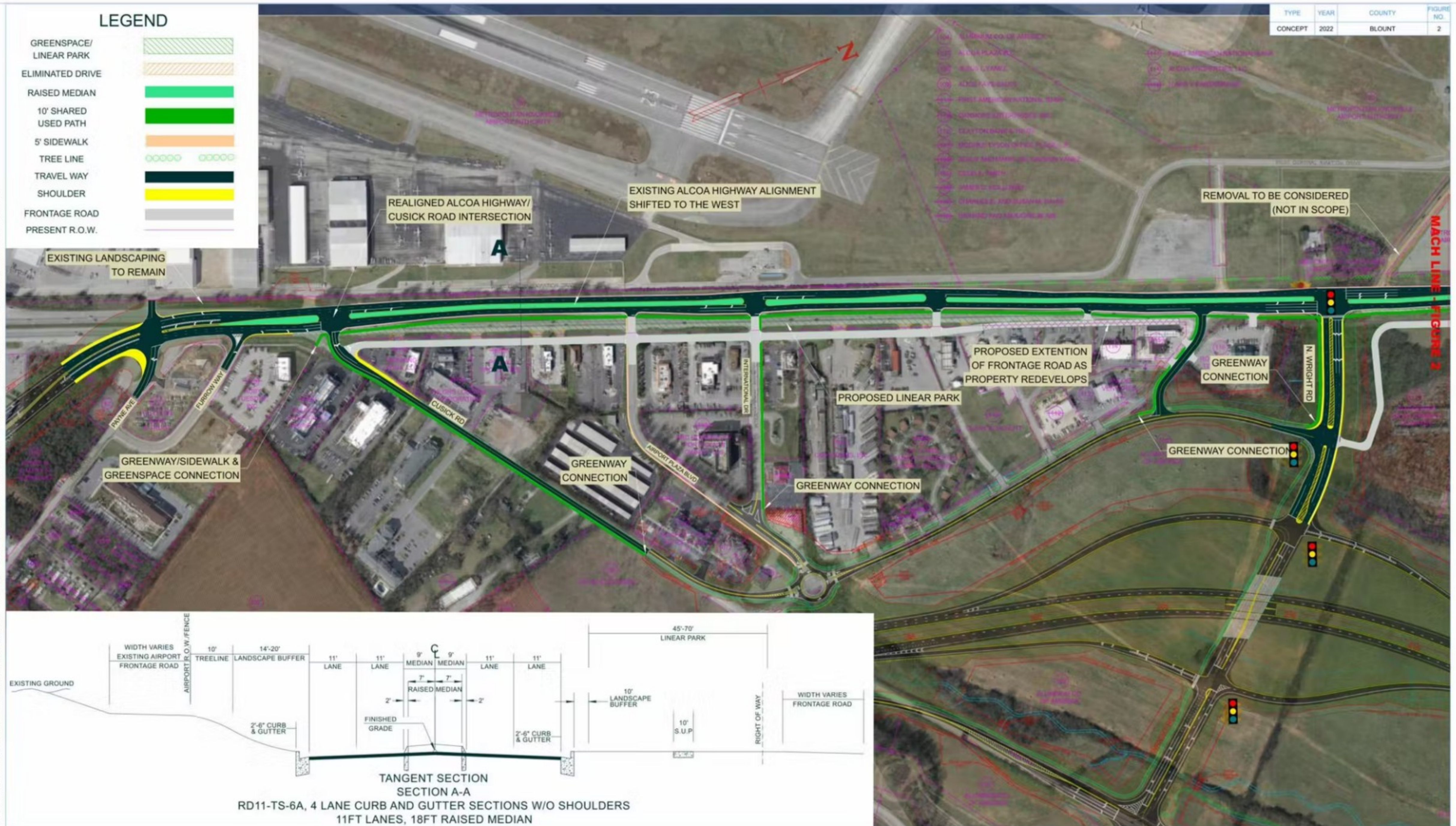


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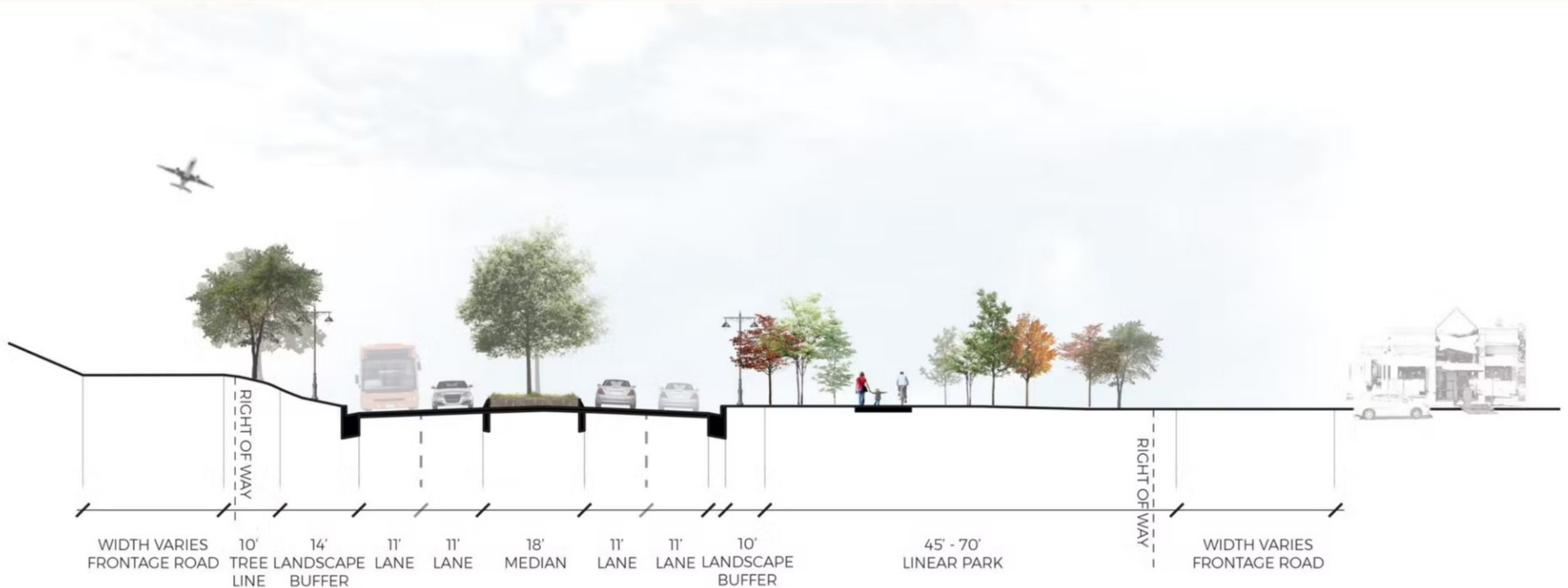
LEGEND

GREENSPACE/ LINEAR PARK	
ELIMINATED DRIVE	
RAISED MEDIAN	
10' SHARED USED PATH	
5' SIDEWALK	
TREE LINE	
TRAVEL WAY	
SHOULDER	
FRONTAGE ROAD	
PRESENT R.O.W.	

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2022	BLOUNT	2

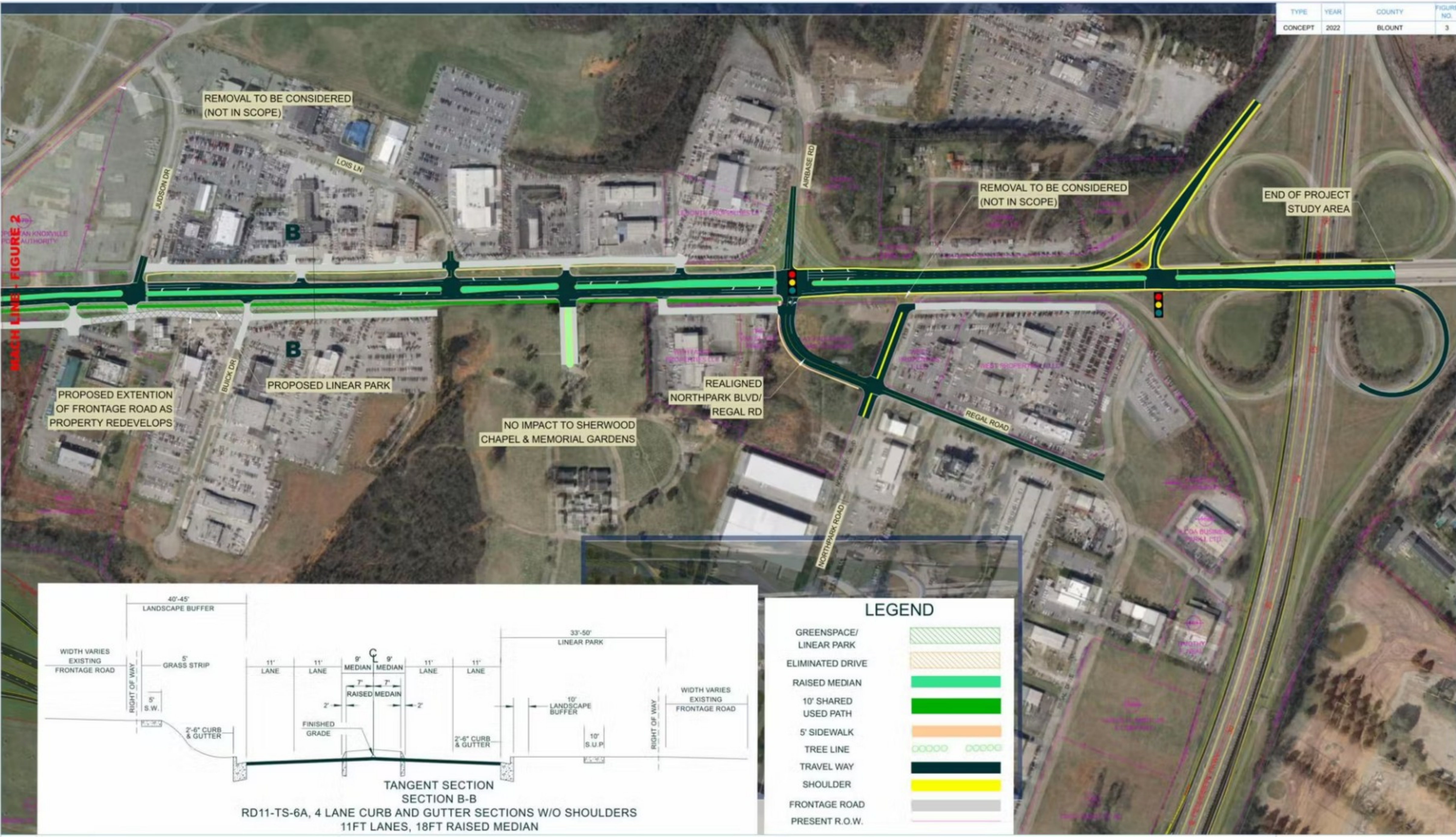


Proposed Four Lane Cross Section – Near Airport, looking North

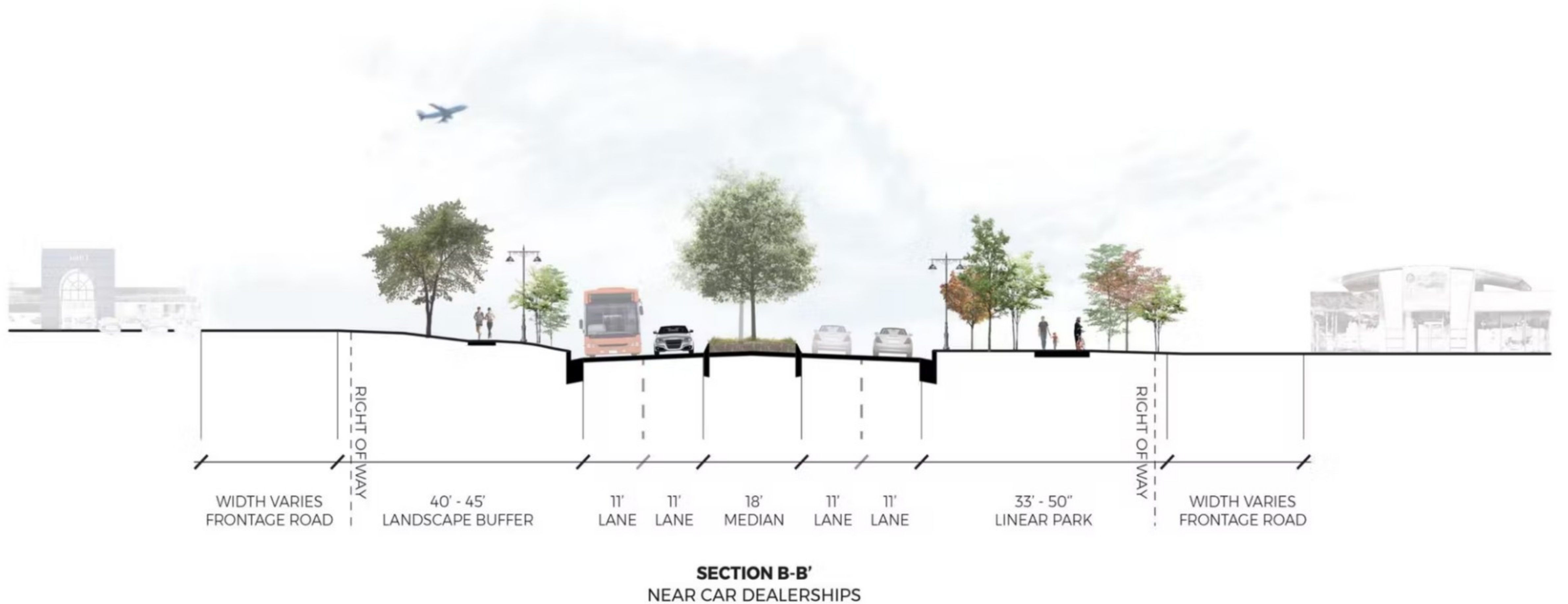


SECTION A-A'
NEAR AIRPORT

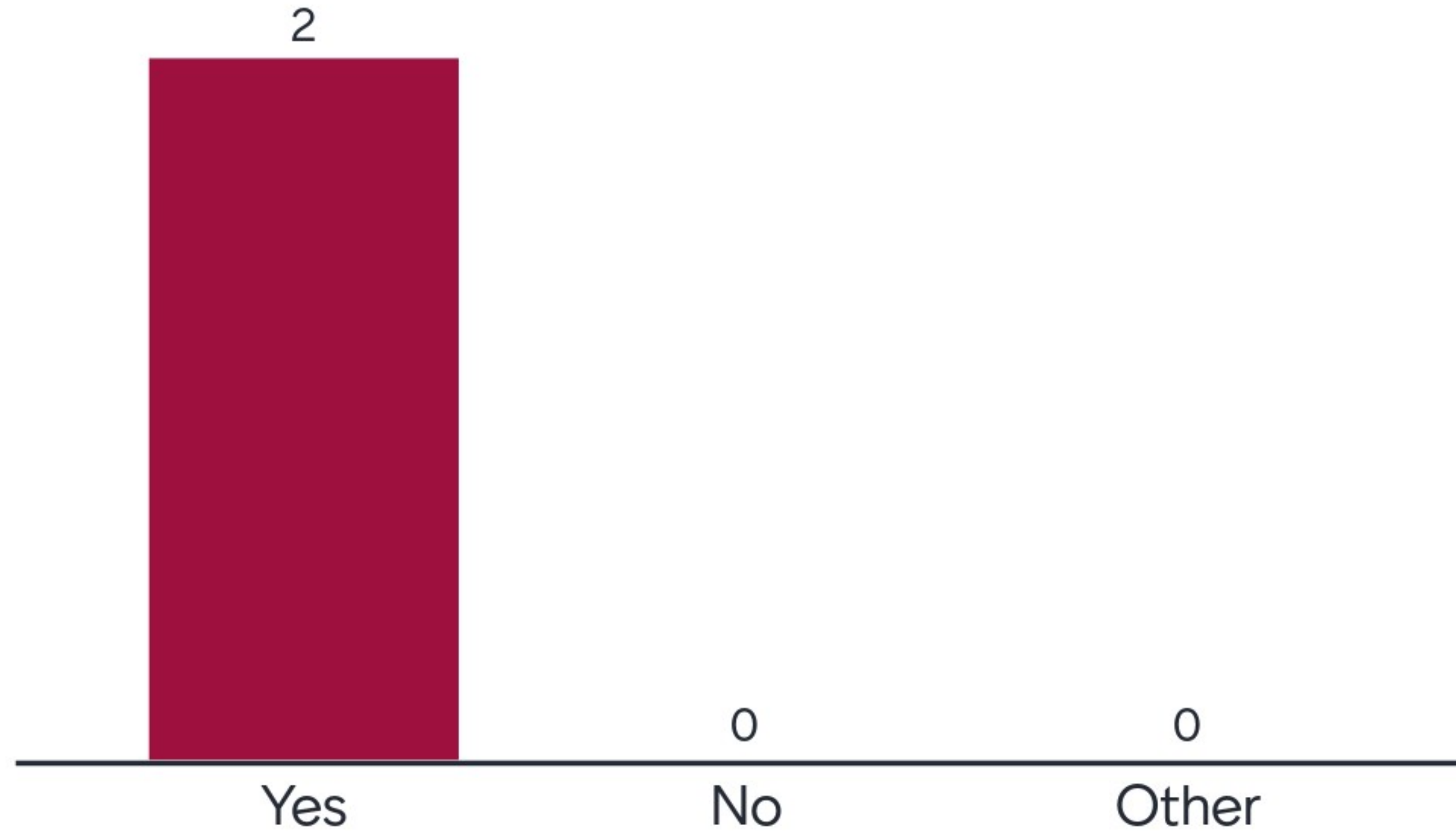
TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2022	BLOUNT	3



Proposed Four Lane Cross Section – Near Dealerships, looking North



Do you agree that Alcoa Highway should be a four-lane roadway section with a raised median (similar to Hall Road)?



Next Steps



SUBMIT
RECOMMENDATIONS
TO CITY OF ALCOA



FINALIZE REPORT



FINAL PRESENTATION
OF THE STUDY TO THE



Questions & Answers

To ask a question go to www.menti.com and enter the code **7486 5463**

City of Alcoa

Mark Johnson, City Manager

Bruce Applegate, Deputy City Manager

Megan Brooks, Development Services Director

Jeremy Pearson, City Planner

WSP

Andrew Sonner

Anne Wallace

To provide additional feedback visit, until March 3, 2022:

<https://www.surveymonkey.com/r/AlcoaHighway>

